

Cassandra of Conservation



J.C. Daniel

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Cassandra of Conservation

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Cassandra

Cassandra, the daughter of Priam, King of Troy, was gifted with the power of prophecy, but Apollo whom she had offended brought it to pass that no one believed her predictions.

Dictionary of Phrase and Fable
E. Cobham Brewer

Those who foresee and predict the downfall meet with the fate of Cassandra.



Troilus on Cassandra's prophecy of the death of Priam's son Hector.

"This foolish, dreaming, superstitious girl
makes all these bodements"

Troilus and Cressida
William Shakespeare

PREFACE

The Bombay Natural History Society has, over the years, drawn the attention of the Government of India and the Governments of the various States of the Union to the urgent necessity for conserving the natural wealth of the Nation.

Some action has been taken, but much remains to be done. In this booklet, we draw attention to critical areas, which, if unattended, will be disastrous for the conservation of the biodiversity of the Nation.

We have tried to identify the basic problems that plague conservation of our natural resources. Issues like prioritization in human-animal conflicts, population pressure on natural resources, displacement of traditional inhabitants, both human and animal, from their homes, the status and problems of indicator species and core habitats, have been addressed in this compilation of the author's view points from the Hornbill.

*"He prayeth well, who loveth well
Both man and bird and beast."*

*"He prayeth best who loveth best
All things both great and small
For the dear God who loveth us
He made and loveth all."*



PRATAP R. SARAIYA
Vice Patron, BNHS

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VIEWPOINT



HALF a century ago, when India attained Independence, there were 360 million Indians in a country with an enormous potential for development. Today we number over 960 million, having gained an incredible 600 million in population in 50 years, which is more than the population of most countries in the world. It is estimated that three Indians are added to the population every five seconds.

Only Kerala and Tamil Nadu have reined in this runaway human regeneration. In the process, we have devastated our abundant natural wealth to such an extent that it is questionable whether

The most endangered species in India

India can sustain Indians. Some statistics, even though they are a decade old, may substantiate this anxiety about survival.

In India, land urgently in need of rehabilitation because of wind and water erosion, salinity and alkalinity, now exceeds an area of 100 million ha. The Chambal Valley, with 4 million ha ruined by erosion ravines, is a classic example of what can happen elsewhere.

Another pressure on land is urbanisation. The urban Indian population is the fourth largest in the world and continues to grow. Agricultural land is taken up to meet the demands of urbanisation. From 1950 to 1980, approximately 1.5 million ha of the available land had been lost in this manner. Firewood remains the main source of energy for cooking in India, particularly in villages. As much as 250 million tonnes of wood is lost from forests and since 1947, we have lost 53,000 sq. km of forests, an area larger than Punjab (*India Today* Aug. 10, 1998). Urban India uses over 20 million tonnes of firewood worth over 5000 million rupees, more than was spent on afforestation from 1950 to 1980. Water conservation is another cause for concern. India still uses only one tenth of the rainfall it receives. Floods create havoc each year but we still lack an effective policy of flood control and



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water conservation. Ground water reserves, which were once 10 times the annual rainfall, have been so over used that in many areas the water table has fallen far below economically retrievable levels. The rivers have been so polluted that safe drinking water is a rarity. No other life form in India has the catastrophic problems that face man, with an environment pauperized by the insatiable needs of an ever expanding population. It is indeed a curious paradox that unlike other endangered species, numbers will be the ruin of us.

J.C. DANIEL

NO ROOM FOR WILDLIFE

A natural corollary of the exploding human population is the search for space to live and the consequent destruction of wildlife habitats. Some illustrative instances of this process are what is happening to the Borivli (Sanjay Gandhi) National Park in suburban Mumbai and the Bhitarkanika Wildlife Sanctuary in Orissa. In the Sanjay Gandhi National Park the forest department was apathetic or looked the other way while a part of the National Park was overrun.

Conservative estimates indicate that almost 200 hectares of the Park has been encroached upon. Other estimates indicate that almost 800 hectares of the Park has already been devastated by encroachment and quarrying. Large scale tree cutting also poses a serious threat to the Park's existence. The latest government figures have identified 33,000 families as encroachers. On an average of 5 persons per family, the figure comes to about 1,65,000 persons on a very conservative estimate, though some estimates put it at 3.5-4.0 lakhs.

Not only slums, but bungalows have come up on the Sanjay Gandhi National Park land. Only the courts have stood up against the complete take-over of the National Park land. The tragedy is that in spite of court orders against the desecration, the State wants to denotify the encroached land. The solemn oath that ministers make to uphold the law are of little value; political compulsions do not permit them to keep faith.

What is happening at Bhitarkanika is equally disgraceful. I had surveyed the area 25 years ago, and was partly responsible for having it declared a sanctuary. Though an unique habitat with estuarine crocodiles, the second largest mangrove forest in the country and perhaps the largest Ridley turtle rookery in the world, it has now 25,000 illegal settlers, has lost 350 sq. km of its forests, and the forest department is fighting a losing battle against prawn farms and ancillary infrastructures. The Divisional Forest Officers who protest are promptly transferred and revenue officials set fire to a forest block to settle migrants — a vote bank for the politicians — a case of official vandalism. These are just two examples of what threatens our National Parks and Sanctuaries. I may be a pessimist, for to me it is the beginning of the end. I would paraphrase Pandit Nehru's favourite lines from Robert Frost to express what we face.

"The woods are lovely, dark and deep
But they're no longer ours to keep."



J.C. DANIEL

VIEW POINT





SUNJOY MONGA



DOYLE MCKEY

The gujars vigorously protect their rights to lop the trees — a self destructive way of life indeed.

VIEWPOINT

Conflict of Interest



DOYLE MCKEY

Traditionally nomadic, these gujars have taken to a settled life in Rajaji National Park.

In the management of protected areas the debate on whether wildlife or human interest is paramount is a continuing conflict between wildlife and environment conservationists and human interest groups. Inevitably human interest wins; animals do not have a vote. Certain fallacies are used to justify the dominance of




In the continuing conflict between wildlife and human interest groups human interest wins.

human interest in protected areas. An example is the propaganda that people, especially forest dwellers, have lived for ages in harmony with nature and therefore, they know best and should be left to manage their environment. This concept is based on the delusion that conditions have remained static and unchanged over the years. The fact is that resources have remained constant but their use has gone beyond sustainable levels. This is true of all forested areas in the country where human population, using forest resources, has grown to such an extent that there is continuing irreplaceable loss of resources and biodiversity.

There are two critical problems; the first is to maintain forest in the best of health for animal and plant life and

secondly to ensure that forest dwelling humans receive all the benefits that are available to their non forest village and city counterparts. The two are incompatible; you cannot hold a wilderness area pristine if you introduce modern conveniences necessary for human welfare. At the same time, forest dwellers cannot be denied facilities available to people outside forests. The pragmatic decision would be to move people out of protected areas and to ensure that they are provided for all their material needs. Unfortunately, promises are made and hardly ever kept, and the abandoned join the millions of other homeless people.


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V I E W P O I N T

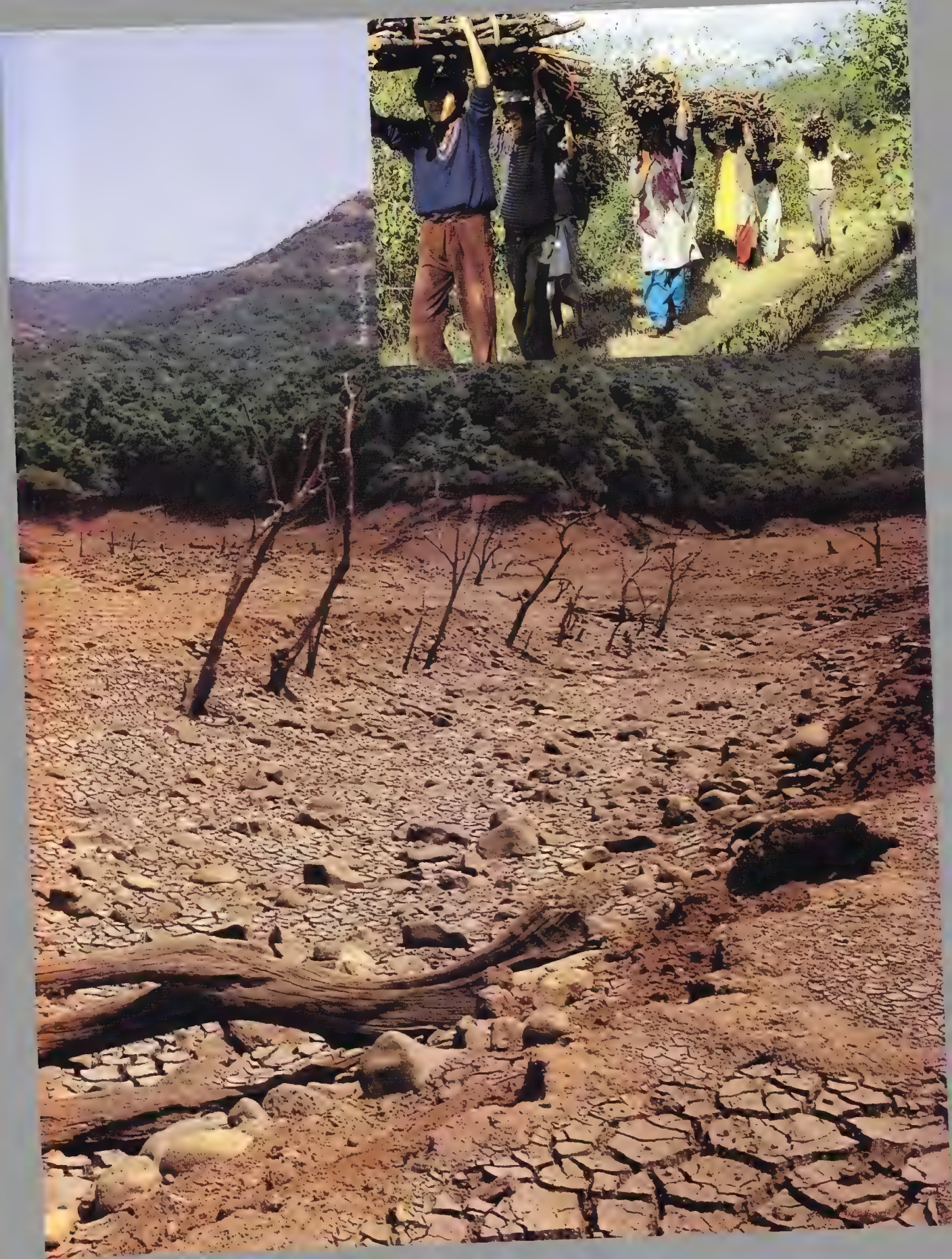
At a recent meeting of the Indian Board for wildlife chaired by the Prime Minister, conservationists repeatedly emphasised special protection for India's protected areas consisting of approximately 4.5% of the landmass, overlooking the fact that unless the other 95.5% of land is looked after there is no chance of saving the 4.5% of P.A.s. The odds in the survival ratio of PAs against human needs are thus loaded 95.5 : 4.5. The crux of India's conservation problems is that the demands on natural resources for human needs and the needs of domestic livestock are so great that little is left for any other forms of life. India, though having hardly one-fortieth of the world's land surface, supports more than one-half of the world's water buffalo and more than one-seventh of its cattle and goats. The effect of the constantly increasing pressure of these domestics on the land (particularly grasslands and forests) has been disastrous. Land urgently in need of rehabilitation because of wind and water erosion, salinity, and alkalinity now exceeds 100 million hectares. The Chambal Valley, with 4 million hectares ruined by erosion ravines, demonstrates what can happen elsewhere. Another continuing pressure on land resources is urbanization. Our urban population is the fourth largest in the world, and it will continue to grow, while agriculture on impoverished land, fragmented by inheritance distribution among members of a family, fails to support the increasing rural population. At the same time, agricultural land is taken up to meet the demands of urbanization. Approximately 1.5 million hectares of arable land have been lost in this manner since 1950. These losses are borne by the forest and grassland habitat of India's wildlife. Another important factor is water conservation. India still uses only one-tenth of the rainfall that it receives. Floods wreak havoc each year, but India still lacks an effective policy of flood control and water conservation. Groundwater reserves, which were once 10 times as great as the annual rainfall, have been so overused that in many areas the water-table has fallen far below economically retrievable levels. An equally major consideration is energy. Firewood remains the main source of energy for cooking in India, particularly in villages. Urban India alone uses more than 20 million tons of firewood, worth over 5000 million rupees, more than was spent on afforestation between 1950 and 1980. Satellite data indicate that India is losing 1.3 million hectares of forests a year.

These figures relate to conditions over a decade ago and the situation has not improved.

The major source of forest degradation is timber removal for commercial use or as firewood. Protected forest areas are unlikely to be saved unless alternate arrangement such as fuelwood forests are raised. **Fuelwood forests must be a part of Panchayat functions.**

Water Conservation requires legal protection of our remaining wetlands so that they are not diverted for other uses. **There should be a blanket Central legislation to protect wetlands, from the size of village ponds to Ramsar sites such as Chilka and Keoladeo Ghana.** Water Resources will be the main source of conflict in the coming century unless timely efforts are made for their conservation.

J.C. DANIEL



A photograph of a steep, forested hillside. The trees are dense and green, covering the slope. In the background, a misty or hazy landscape is visible, suggesting a valley or distant hills. The lighting is soft, and the overall tone is natural and serene.

VIEW POINT

National Forests

"The impending water crisis confronting India can very largely be overcome by restoring "true" forest cover, to the maximum extent that present circumstances will permit, over the 33.3% of the geographical area of the country stipulated under the National Forest Policy, to be afforested. Of the 328.7 mha comprising the geographical area of India, approximately 40% is what could be described as 'Uplands', consisting of Mountains, Hills and the Deccan Plateau. It is there that the headlands of all our rivers are located. With good cover of climax or secondary climax forests over the major portion of these 'Uplands', the entire hydrology of our country would dramatically improve. The duration of flow and discharge of many seasonal rivers and springs would increase, some becoming perennial. The widespread natural rainfall water drainage system that extends over a large part of the country, much of which has long since gone dry or levelled, could once again form the courses of active rivulets and streams, thus benefiting a large proportion of our rural population, thereby providing them ready access to potable water. This would greatly reduce the need to construct a vast network of expensive artificial canals with all the problems and limitations these would impose, not the least of which would be regular maintenance which today has been so notoriously neglected."

CULDEP MATTHAI





THE POISONED EARTH

THE Supreme Court in a landmark judgement on writ petition No. 214 of 1991, filed by the Vellore Citizens Welfare Forum stated that “the right of a person to pollution free environment is a part of the basic jurisprudence of the land.” The case concerned the extensive poisoning of land by the 900 tanneries that operated in the State of Tamil Nadu. The discharge of their untreated effluents, into agricultural fields, roadsides, waterways and open lands, made 35,000 ha of agricultural land in the tanneries belt partially or totally unfit for cultivation. And in two Panchayats, made 350 wells, out of a total of 467 wells in 13 villages, unfit for drinking and irrigation purposes. The effluents let out into rivulets and rivers spread out, during the rains and floods, and the pollutants covered other lands. Drawing attention to the provisions of the Environment Act, the judgement states: “It is high time that the Central Government realises its responsibility and statutory duty to protect the degrading environment in the country. If the conditions in the five districts of Tamil Nadu, where tanneries are operating, are permitted to continue then in the near future all rivers/canals shall be polluted, underground waters contaminated, agricultural lands turned barren, and the residents of the area exposed to serious diseases. It is, therefore, necessary for this Court to direct the Central Government to take immediate action under the provisions of the Environment Act.”

This is one instance out of the thousands which happen all over the country when land is allowed to be poisoned for the profit of a few people. As the judgement states, “The Polluter Pays principle has been held to be a sound principle by this court.” This is a basic conservation issue, and the failure of Central and State Governments to act cannot be condoned. In the final analysis, all of us are made to pay for the acts of a few.



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VIEW POINT

How does one destroy a pristine natural forest which has stood for thousands of years, a treasure house of natural wealth, a primeval inheritance for later generations?

The answer is simple — run a road through it. It will be like driving a poisonous spear into the heart of the forest — a channel for the introduction of the infection and corruption of civilisation which will, within a few years, destroy the forest, its soil, its wildlife and its people, who will be lost in the melting pot of progress, development and exploitation.

J. C. DANIEL



Grasslands or Wastelands?

VIEW POINT





For many years authority in India has been unable to distinguish between grasslands and wastelands, and as a result, as Asad Rahmani says, "In India, grasslands are the most neglected and over-used ecosystems, with overgrazing playing a major role due to huge livestock population of more than 420 million animals. Owing to heavy grazing pressure and conversion of grasslands into agricultural fields, the flora and fauna of the grassland ecosystems have suffered a drastic decline. Protection of natural grasslands for bird conservation should be integrated with development of fodder resources for India's burgeoning livestock population."

J.C. DANIEL

PHOTOGRAPH BY ASAD RAHMANI



Water of Life

The ENVIS (Environmental Information System) programme at the Society collects and disseminates information on the inland wetlands in the country. We are appalled to find that wetlands are the most abused among the life supporting habitats in the country. A sample survey of four districts in Tamil Nadu showed that many are being filled up or put to other uses. Those within the control of the forest department expose the department's one track mind. They have been planted with Acacias and similar trees. The tanks had been dug in ancient days to store water against the vagaries of the monsoon. The tanks and village ponds provided the water of life for the people and the birds and beasts, both wild and domestic, and life revolved around them. They charged the wells that were the source of an easily available water supply. The culture of tapped water has, in many instances, made the village tanks redundant to man, but they are still vital to other life forms. Tapped water supply in India is as fitful and wayward as the nation's supply of electricity, and taps are often only ornamental. In the meanwhile, tanks which are the fundamental life support system for all the wildlife and waterbound vegetation are being converted into bus stands and housing colonies, for there is no legal protection for wetlands — a waste of a life support system which has already reached a critical stage when we consider the difficulties between states in the distribution of water.



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PANKAJ SEKHSARIA / SANCTUARY

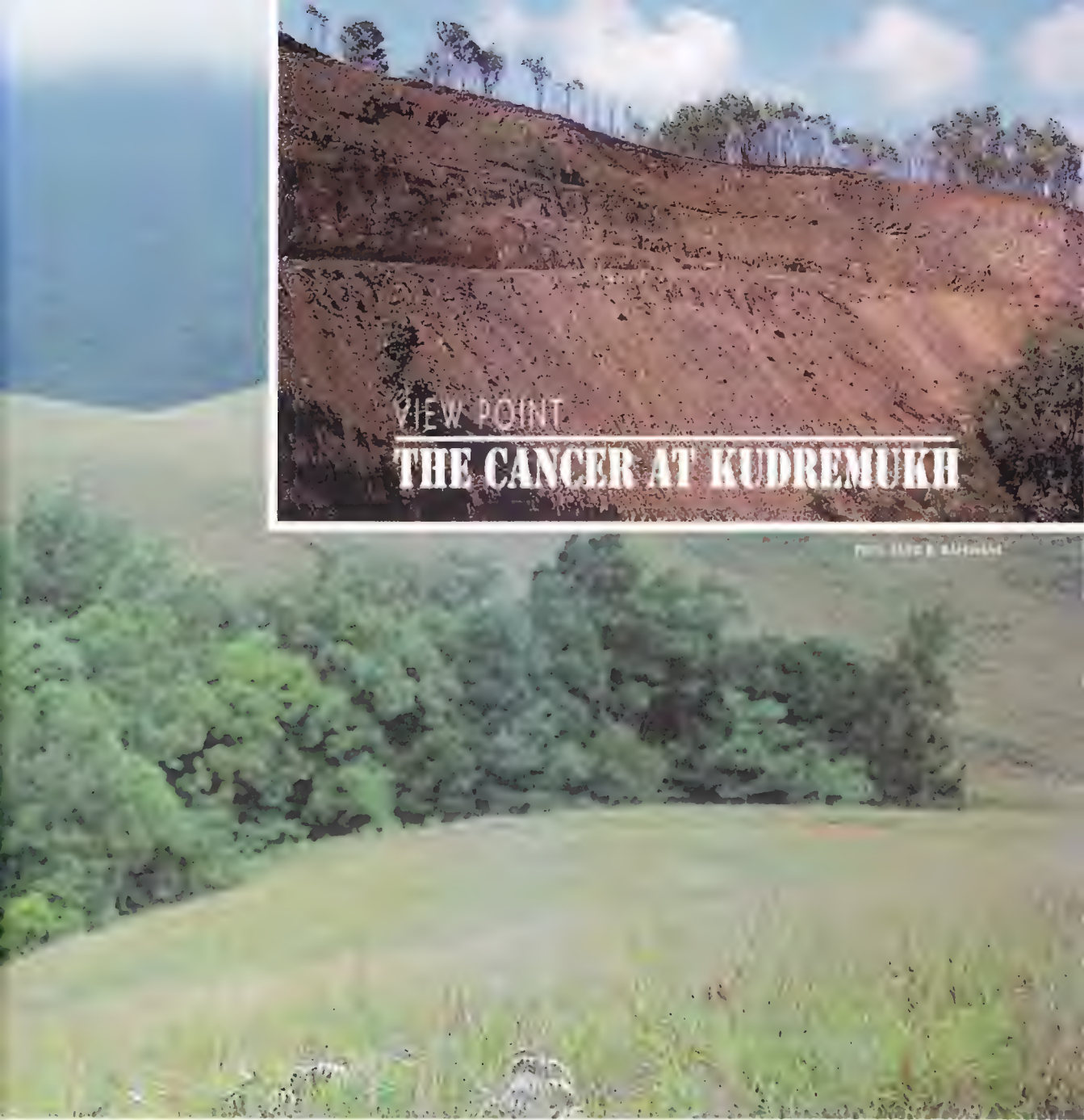
Treasure Islands

There are 306 islands in the Andaman and Nicobar group, closely scattered in the Bay of Bengal, a thousand kilometres from both Kolkata and Chennai. An area of global significance, and a biological hot spot with over 3,000 species of plants and 5,000 animals, it is a veritable treasure house with many of the islands untouched by the hands of man. But, wherever man has been, this fragile ecosystem has been damaged beyond repair by agricultural activities, encroachment, sand mining, inappropriate fisheries, forest plantations, tourism, pollution, poaching and the introduction of exotics. Finally, the Supreme Court, responding to the appeal of local and mainland environmentalists, including BNHS, has called a halt to this pillage of national wealth and world heritage.





THIRTY YEARS AGO, one of the pristine forests in the Western Ghats, Kudremukh, was desecrated by leasing land to the Kudremukh Iron Ore Company. Kudremukh is the highest peak north of the Anaimalais unique in its pure stands of tropical evergreen forests. There are no comparable forests in the Western Ghats and Kudremukh should be a national heritage site. An area that should not have been scarred with mines. The mining lease was, we thought, a temporary governmental aberration, but it is apparently a deep seated and malignant cancer. In spite of the opposition from the Karnataka Forest Department and all environmental groups interested in saving what little is left of our natural forests, the lease has been renewed for a year by the Ministry of Environment and Forests. Tremendous pressure is being brought on the Karnataka government from the highest executive authority




VIEW POINT

THE CANCER AT KUDREMUKH

PHOTO: JAYDEE K. KUDREMUKH

of government to freeze the final declaration of the National Park, to enable still further areas to be denotified, including the sanctum sanctorum of the Park, through which the ore pipeline passes. The mining company, without clearance from the Forest Department, is relaying the pipeline and a road in this area of the National Park. Mining is not the only threat. A highway is planned through the forest, which will sound the death knell for the Park. These developments can only be considered as officially approved vandalism and have to be strongly opposed by an aroused public opinion interested in retaining the miniscule area of land (4.5%) considered as protected areas.

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VIEW POINT PONDS IN PERIL

*A*n area of great concern is the status and conservation of the smaller water-spreads such as village ponds and temple tanks which are under severe stress. Many of these are important repositories of biodiversity, and some have become important sanctuaries for birds and other wildlife. Sadly, over the years due to the increasing human population and hunger for land, and the advent of piped water into homes, the need and care of village and temple tanks is gradually diminishing. Many are now neglected or have been filled up to be put to other uses, and even serve as dumping grounds for the wastes of villages and cities. The Envis Centre (Environmental Information System) at the Society, which gathers and disseminates data on ornithology and inland wetlands, did a sample survey of the status and problems facing small waterbodies in three districts of Tamil Nadu, namely Chengalpattu, Rameswaram and Kanyakumari. The findings of the Society's scientists are revealing. Human population pressure and the high cost of land leads to encroachment (68% in Kanyakumari) for extending paddy



fields, coconut groves and housing colonies. In spite of the manifold benefits of wetlands to the locals in terms of resources such as water for irrigation and domestic use, fish, food plants, recharging of the water-table, these waterbodies are more or less neglected. One major reason could be that most wetlands in India are public property. Protection of wetlands is lax or non-existent. Some of the offices entrusted with the care of the wetlands do not even have basic information on the wetlands under their jurisdiction. It is evident that there is an urgent need to document and collect baseline information on the wetlands of India and take steps for their conservation before this "waterlogged wealth" is frittered away and lost forever.

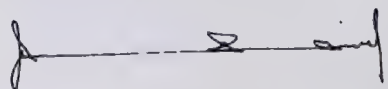


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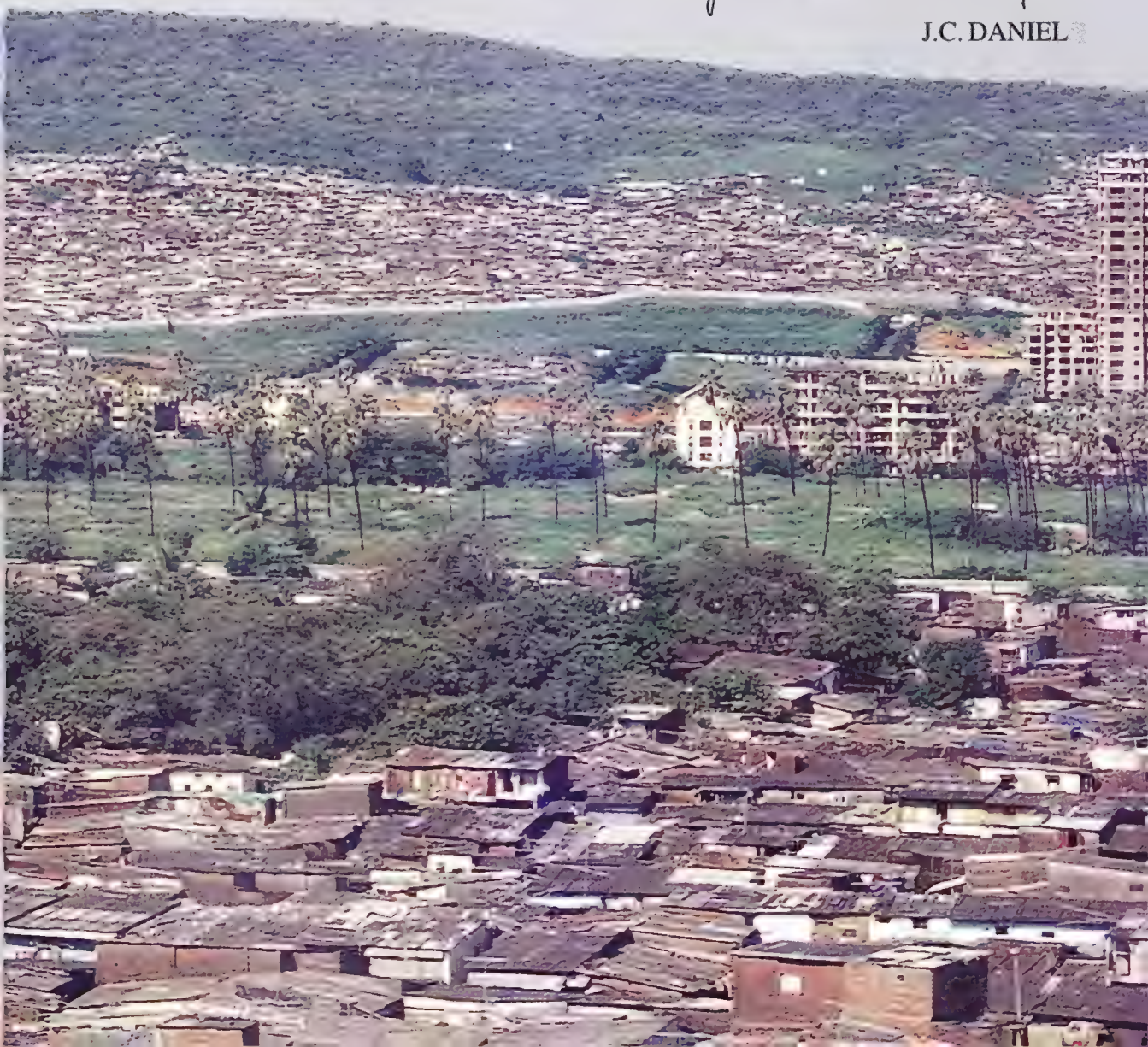
VIEW POINT



Three retired judges looked at the humanitarian aspects of the eviction of encroachers from the Sanjay Gandhi (Borivli) National Park and concluded that it is a human rights violation. May be. However, they have overlooked the fundamental fact that encroachment on public land such as a National Park, is an attempt at converting public land, which is the property of a nation of a billion plus people, into private property. This fact is conveniently forgotten in all cases of encroachment. True, encroachment is an admission of failure of the administrative machinery, but why should the nation be penalised for it? It is time the departments of government did their duty and preserved the property of the people. It is also time that the politicians realised that when they take the oath of office they are committed to the conservation of national property and not to its distribution among their vote banks.



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VIEW POINT URBAN ENCROACHMENT

INDIA, although having hardly one-fortieth of the world's land surface, supports more than one-half of the world's water buffalo and more than one-seventh of its cattle and goats. The effect of the constantly increasing pressure of these domestics on the land (particularly grasslands and forests) has been disastrous. In India, land urgently in need of rehabilitation because of wind and water erosion, salinity and alkalinity, now exceeds an area of 100 million hectares. The Chambal valley, with four million hectares ruined by eroded ravines, demonstrates what can happen elsewhere. On top of these continuing pressures on land resources, urbanisation has now become a major threat. The urban Indian population is the fourth largest



in the world, and it will continue to grow while agriculture on impoverished land, fragmented by inheritance distribution among members of a family, fails to support the increasing rural population. At the same time, more agricultural land is taken up to meet the demands of urbanisation. Approximately three million hectares of arable land have been lost in this manner since 1950. These losses are borne in the final assessment by the forest and grassland habitat of India's people and wildlife. With an ever-increasing human population we cannot afford to lose agricultural land to urbanisation.

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S. BALAJI ANDJIAN

THE CANCER OF



1921



BHHS PHOTO LIBRARY

ENCROACHMENT



S. BALACHANDRAN

2002

VIEW POINT

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Day by day, year by year, India keeps losing its national natural wealth by the conversion of its forest lands to agriculture and urbanisation. The Forest Department, the custodian, watches and probably connives with this disastrous, and rarely recorded destruction. Kukal Shola in the Kodaikanal hills, 33 km from Kodaikanal town in Tamil Nadu, provides a singular example. In 1921, when the late Charles McCann, the Society's then Asst. Curator, did a mammal survey of the area, it was a beautiful evergreen Shola forest. Sixty years later, in 1981, when the Society had a Bird Ringing Programme, it was still good Shola forest. In 2002, 81 years later, it had become a carrot and cabbage field. In terms of economic and environmental value we have lost heavily. This is but one recorded instance of the continuing, creeping cancer that affects the whole country.



The Alien Invasion

INTRODUCTION, whether advertently or inadvertently, of an alien life form into a new environment is always fraught with danger and should be vigorously discouraged. The classic example is the rabbit in Australia. Invariably there are no checks and controls and the alien runs wild, suppressing and destroying native competitors and finally the environment it occupies. In India, the quintessential examples are the lantana growth in the Indian forests and water hyacinth in our wetlands. Lantana, originally from tropical and subtropical America, has exuberantly taken to Indian conditions since its introduction in 1809 in Calcutta. It thrives in areas with rainfall ranging from 30" to 200" annually; is drought resistant, equally at home in rich and poor soil and has replaced forest undergrowth in a large area of the forests of the Subcontinent, so much so that its eradication has become costly and almost impossible. The area of forest and indigenous vegetation lost to it has not so far been calculated. The plea for its eradication is often met with the extraordinary argument that it provides good cover for wildlife, overlooking the fact that wildlife survived for millennia under the natural vegetation.

The water hyacinth is probably a more disastrous invader. A perennial aquatic plant, floating or partially rooted, it can withstand drought and if necessary grow on land. The rapid growth chokes up ponds and stagnant or slow moving water, making life for other forms impossible. According to the WEALTH OF INDIA the ravages caused by the weed are extensive. It impedes run-off in streams and promotes backwater and flood conditions in many areas. It also affects drainage of cultivated lands by choking off drainage channels by its dense growth. The wildlife resources of lakes and rivers are affected. The mat-like spread cuts off air and sunlight from the water below; decaying plant parts affect the oxygen tension and therefore fish life. The "rafts" of water hyacinth break loose, and driven by the wind, move back and forth, tearing up and destroying valuable submerged food plants. Water hyacinth has invaded paddy fields in some areas and rendered them unproductive. It has displaced many aquatic fodder grasses. The weed obstructs wave action in the water and interferes with the activities of birds; it hinders the use of larvicides and other anti-mosquito measures. Navigation through the growth is hazardous.

Eradication is almost impossible as even a small piece can rapidly recolonise the cleared area. The plant is only intolerant of salt water.

These are only two examples of the many aliens such as the *Mikania* creeper, draping forests in the Northeast; *Eupatorium* which rapidly occupies clear felled areas and *Parthenium* which takes over grazed lands. The alien invasion is an environmental pollution which requires urgent, concentrated attention. ♣

J.C. DANIEL



ASAD R. RAHMANI, INSET: ISAAC KUHIMWA

The Last Lap to Extinction

The Indian Wildlife (Protection) Act, promulgated in 1972, listed 41 mammals on its Schedule I of completely protected species. Twenty-seven years later, the Schedule covers 66 species of mammals. Other groups such as birds, reptiles, amphibians, fishes and insects (butterflies) are in an equally precarious situation. Whether there will be any species which is not on the endangered list or extinct in the first few years of the next millennium is a cause for serious concern.

Among endangered species, those with only a single existing population, namely the Kashmir Stag *Cervus elaphus hanglu*, the Thamin or Brow-antlered Deer *Cervus eldi eldi*, the peninsular race of the Swamp Deer *Cervus duvauceli branderi* and the Asiatic Lion *Panthera leo persica* are possible candidates for early extinction. The protected areas are the key to their survival. Unfortunately, though numerous, they are small in size and under considerable pressure from ever increasing human needs. The riverain forests and grasslands are an illustrative example. This habitat, which extended along the foot of the Himalayas and along the course of the rivers that emerge from them, is the most suitable for conversion into wetlands for the cultivation of crops. The loss of this habitat to human needs can be judged from a comparison of the past and present distribution of the Indian Rhinoceros *Rhinoceros unicornis*. It once inhabited the Indogangetic Plain as far west as Peshawar in what is now Pakistan, where the Moghul Emperor Babur hunted it 400 years ago. Besides the rhinoceros, four other endangered species are typical of this habitat, namely the Swamp Deer, Wild Water Buffalo, Pigmy Hog and Hispid Hare. One bird species, the Pink-headed Duck *Rhodonessa caryophyllacea*, which favoured this habitat is now extinct. Long term studies on the ecology of such endangered habitats, require urgent consideration. Unless these areas are sustained, and rehabilitated where degradation has set in, wildlife conservation in India is a lost cause.

Populations of endangered species occupying a specialized habitat, particularly where there is no possibility of increasing the area of such habitats, require urgent attention. Capture and translocation are the methods of choice if a similar habitat is available elsewhere within the country or in other nearby countries with similar climatic regimes. Species such as the Blackbuck have reached this point.

An area of serious concern is the fragmentation of habitats. Populations of animals such as the Wild Water Buffalo *Bubalus bubalis*, Gaur *Bos gaurus*, Elephant *Elephas maximus* and Tiger *Panthera tigris* have become isolated from one another. More species will develop isolated populations as corridors of contact are lost. Such genetic isolation needs careful evaluation.

The increasing human population has resulted in an increasing human presence in Indian Wildlife habitats, to the extent that there is hardly any forest area in India which is truly free of human intrusion. Those species which show a low tolerance for such intrusion have the least chance for survival.

J.C. DANIEL



E.P. GEE



VIEWPOINT

Extinction is caused by various factors and the most bizarre is to be smothered by one's own progeny. That is what is happening or has happened to three of India's wildlife, the wild buffalo, the yak and the red junglefowl. In 1965, I accompanied George Schaller on a survey of the Bastar, Madhya Pradesh to look at the remnant population of the wild buffalo in the forests of Bastar and to check the possible occurrence of a remnant population of the Peninsular swamp deer. Having seen the wild buffalo of Kaziranga, I was struck by the clean lines of the Bastar wild buffalo which had no chance of being contaminated by the domestic variety. The young of matings with the comparatively puny domestic stock of the area died at birth, contrary to the mingling of the domestic and wild varieties at Kaziranga. Manas may still have pure stock but until a study of the genetics of the buffalo, both wild and domestic, is done, and the strain clearly identified, the occurrence of pure strains of the wild buffalo is open to question. The wild buffalo in Bastar, however, is the nearest or perhaps the only pure strain; and its conservation has not received the attention it deserves. Whether the wild buffalo still occurs in Bastar is open to question. The requests to have the population translocated to safer areas in Madhya Pradesh has come up against a wall of official apathy from the State. A project to study the genetics of the eastern population has been stymied by complications inherent to the discussion on where the analysis should be done — in India or abroad. The question whether we have a pure strain of wild buffalo remains unanswered. Similarly, the status of the wild yak which is known more by its domesticated variety. Is the small population in Ladakh truly wild? If the study of the buffalo's genetics is beset with problems, the yak is in a much more difficult situation.

Dr. Asad R. Rahmani drew my attention to a paper presented by Peterson and Brisbin Jr. at the 115th meeting of the American Ornithologists Union held in August '97. The paper concludes that the majority of the population of the red jungle fowl has been contaminated by domestic poultry. From a study of the skins in the collections in the west, they conclude that the presence of an eclipse plumage is an indicator of pure wild genotype. This is found only in the

western and central populations of the range of the species and has disappeared from the eastern population before the advent of scientific collections in about 1860. Populations exhibiting eclipse plumage were found in North India (Dehra Dun) in the 1960's, but may now have been diluted and become extinct. In the eclipse plumage the male's hackles of the midback are black and not elongated red orange brown. In addition, pure strains have slender, blackish legs — wild stock with light brownish legs suggests contamination. Combs in the female are absent or reduced. The authors state that a flock of this pure strain obtained from the Dehra Dun area in the 1960's is with Brisbin Jr. at the Savannah River Ecology Laboratory, P.O. Drawer, E. Aiken, South Carolina 29802, USA.

Curiously enough, none of the Asian collection or Asian literature has been cited. The HANDBOOK does not mention eclipse plumage, Baker's FAUNA, however, states that in the post nuptial plumage the neck hackles are replaced by black feathers and the long tailfeathers are lost. The colour of the legs is given as greenish grey or slaty grey instead of black.

The authors state that "The red jungle fowl — so important economically and culturally to humans — is at least in grave danger of genetic extinction, so measures should be designed to assure its long-term survival."

This is a suggestion that requires urgent consideration.

J.C. DANIEL



India has a vast network of National Parks and Sanctuaries built around endangered species and sometimes around endangered ecosystems. Compared to other countries all of them are small in area and most do not figure in the tourist circuit, both foreign and Indian. The concentration of tourist traffic is by design or otherwise restricted to those holding 'glamour' animals like the tiger, rhinoceros, elephant, and lion. This concentration on a few protected areas helps neither the sanctuaries nor the tourist industry. The problems are easily identified; overuse of a few PAs, lack of infrastructure, conflict between management and industry, administrative hassles such as permits, passes etc.

The majority of the Indian sanctuaries are open for viewing only for a limited period of time, usually less than six months and the peak viewing period may be about sixty days. The sanctuaries cannot withstand the heavy demand on their resources made during this limited period.

The most sensible answer to this problem is to examine the tourist potential of all the protected areas and grade them according to not only the availability of 'glamour' species, but also other natural

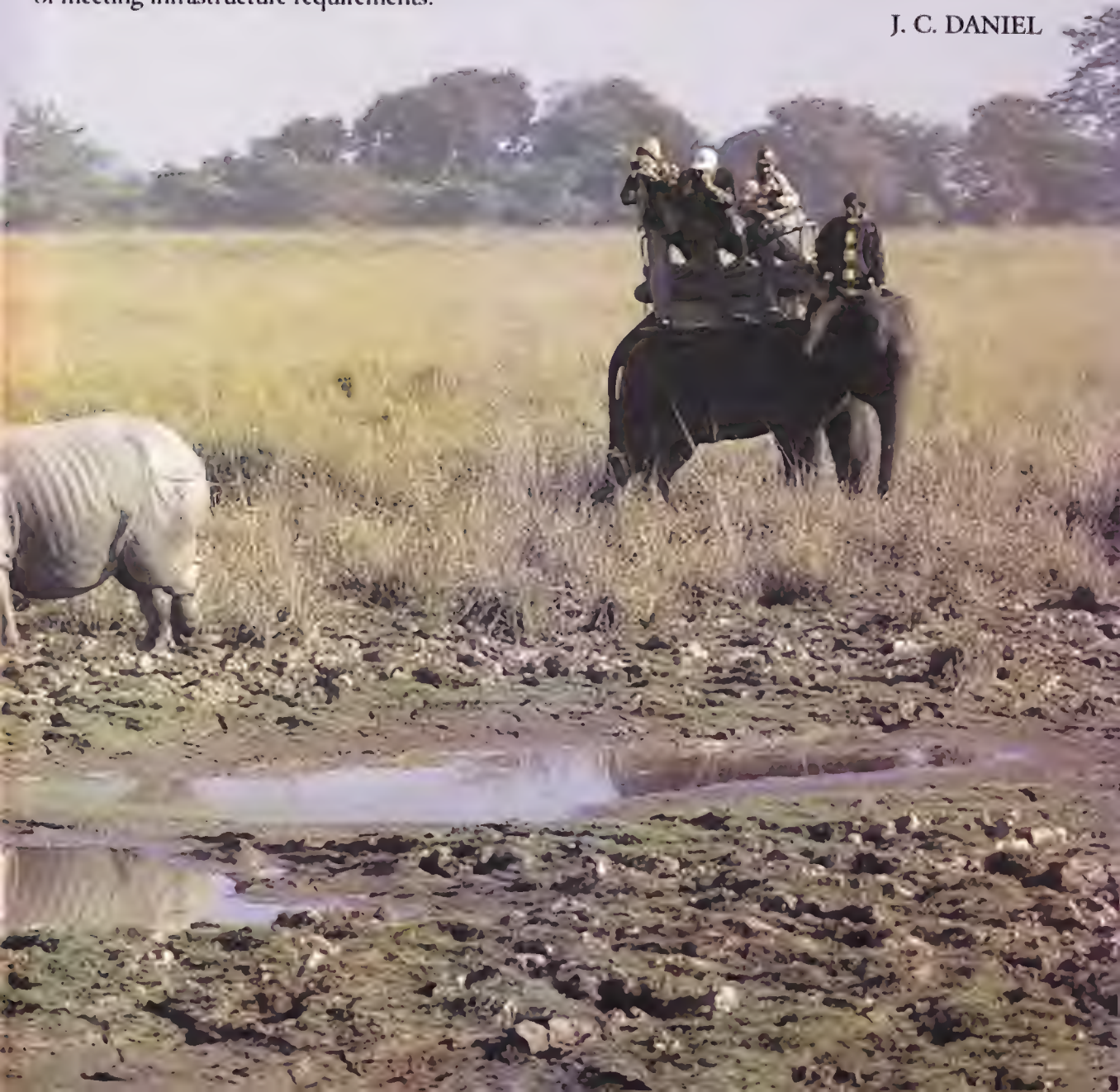


resources which require to be highlighted. We have more than 500 potential emissaries of our biodiversity, let us try and spread tourist pressure more evenly among them.

A cause for serious concern is the lack of infrastructure, and these include roads, accommodation, food and other basic amenities. The majority of the protected areas are situated in inaccessible areas and the journey to and from them could be an ordeal.

There is need for a radical change in management concepts of facilities at sanctuaries if they are to attract visitors irrespective of the animals and other resources they offer for viewing. The Tourism Department has to raise a special cadre of local people well trained in housekeeping to manage the forest lodges. The forest department should limit itself to looking after the forest and the wildlife for which their staff are trained. Better still, except at the managerial level, staff should be recruited locally and rigorously trained as it is likely that the use of the lodges will be largely seasonal. The need of the hour is an indepth survey of tourist potential of all protected areas and then a study of the possibilities of meeting infrastructure requirements.

J. C. DANIEL



VIEW POINT

Riders of the Last Ark — the Indian Lion

Asoka's lion, the lion on India's crest, an exclusively Indian animal, and once the National animal, is indeed a world heritage species. For some years now, a second home has been identified in the Kuno Palpo Sanctuary in Madhya Pradesh, but the preparatory work prior to translocation is taking time. It is said that a decade may pass before translocation occurs — a decade of danger from disease, similar to what happened to an African lion population. It is time the rehabilitation of people from the Sanctuary is speeded up and prey species abundant elsewhere translocated to the Sanctuary, and a pride released into its new home without further delay. The lion seems to be on the road to extinction, a road paved with good intentions.

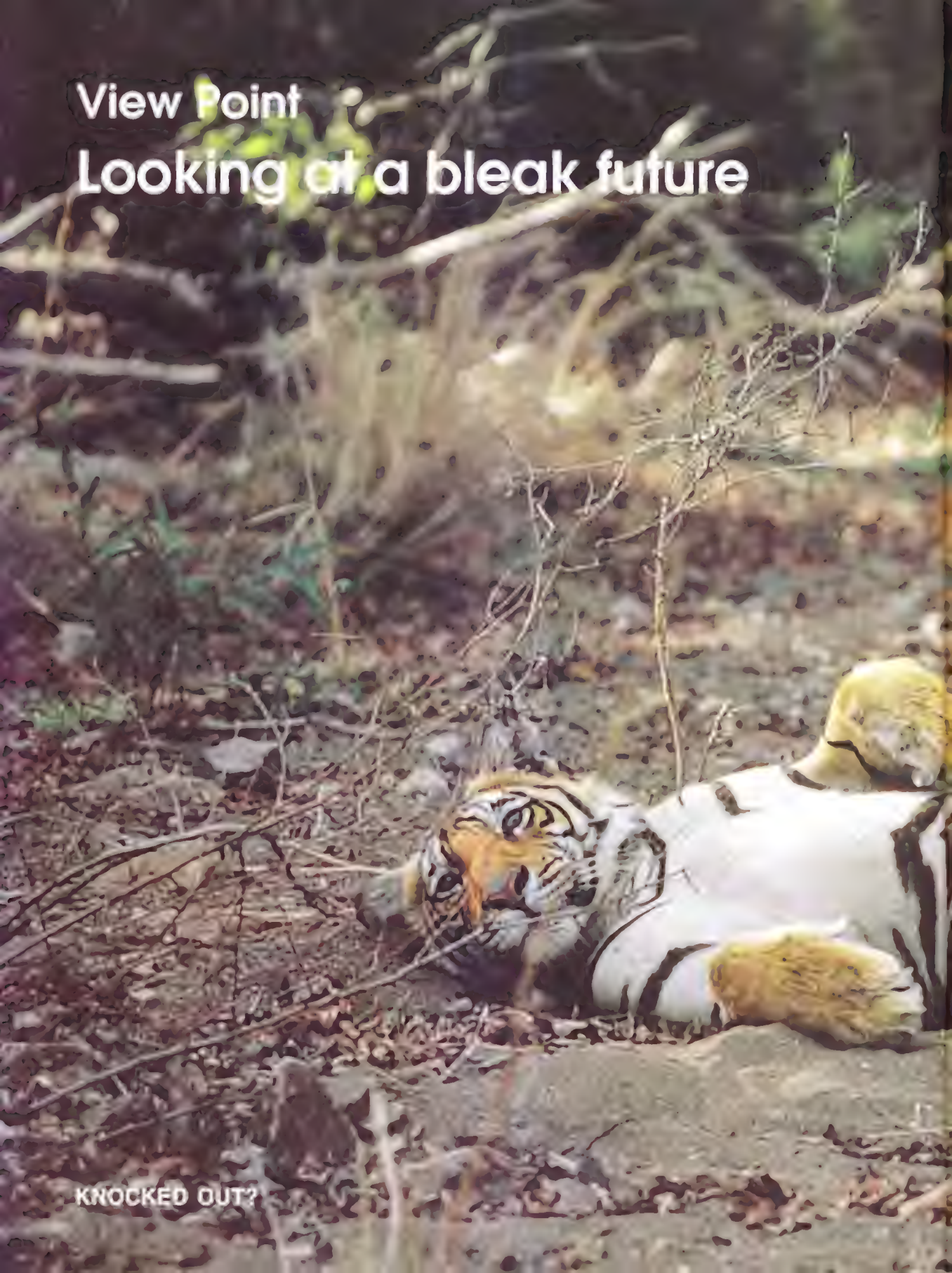
J.C. DANIEL



View Point

Looking at a bleak future

KNOCKED OUT?



At the end of 25 years, we at the "Hornbill" find that the passage quoted below conveys precisely the status of our natural resources.

"We lose at least 10,000 square kilometres of forest each year and at least 50,000 square kilometres of dense forest canopy are thinned out by the timber mafia. The central government puts the loss each year from forests at 50,000 crores or 1,200 million dollars. The actual level of depletion could be far higher. Few realize that 300 rivers and perennial streams flow from the forests of the tiger. Natural resources are exploited by politicians and businessmen; the exploitation is then rationalized in the name of 'development'. It is a partnership in crime that cripples this country each day as the face of our land is ripped apart and scarred; rivers are drowned in so many toxic chemicals that river water has become a lethal cocktail of poison. Environment and wildlife laws are violated and every structure of enforcement is paralysed. Resources allocated to protect our environment add up to 50 crores each year when our loss is 50,000 crores annually."

— VALMIK THAPAR

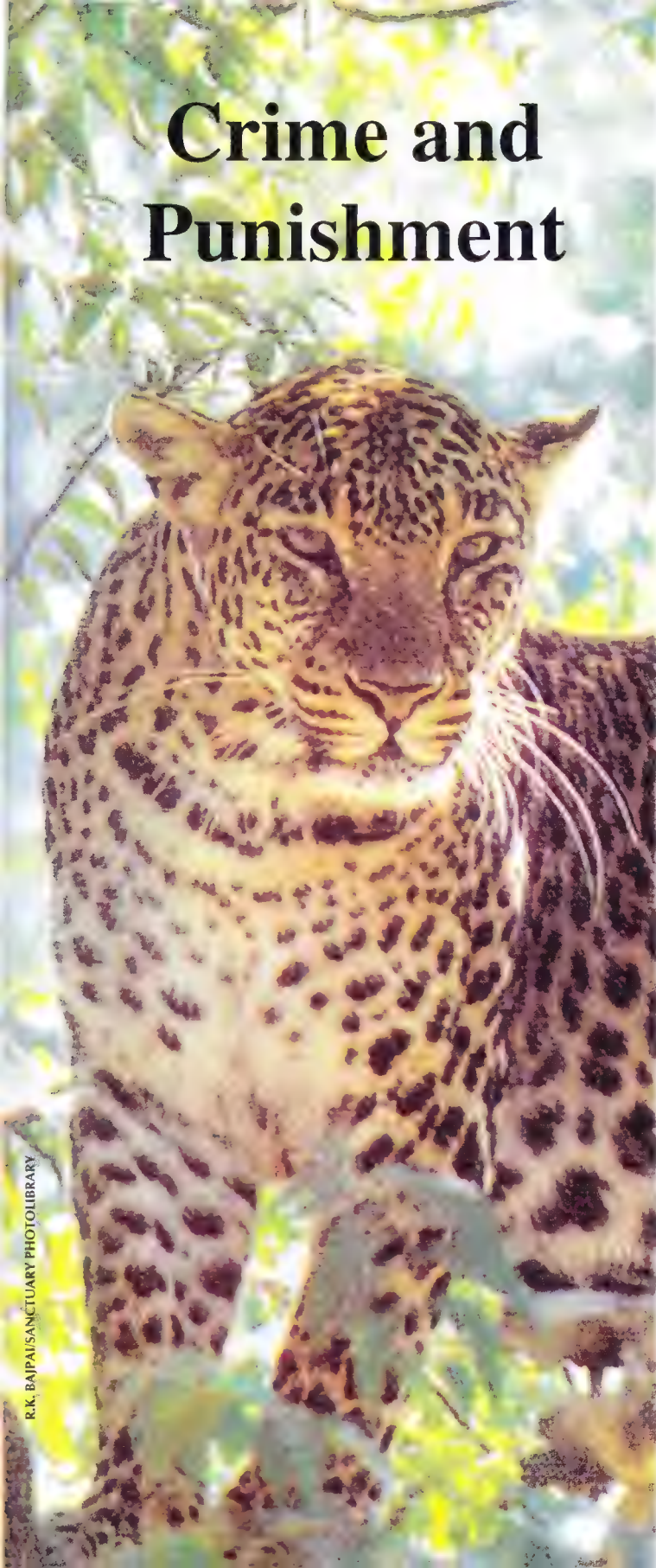
Quoted from WILD TIGERS OF RANTHAMBORE



VIEW POINT



MICHAEL RODRIGUES / Courtesy: The Times of India



Crime and Punishment

Spirit of Night!

*Out of the misty eastern cave
where, all the long and lone daylight,
Thou wovest dreams of joy and fear,
which make thee terrible —*

P.B. Shelley

WHOSE CRIME? Surely of the governments which permitted people to continue to live in misery in the Core Area of the Park. Undeserved, and terrible punishment for the people who lost their children and for the leopards, that lost their liberty, caught in traps and battering their heads on the unpadded bars, trying to get at their tormentors.

The two leopards trapped in the core area of the Sanjay Gandhi National Park, Mumbai are prime examples of areas "where beasts with man divided empire claim."

Yet, with some forethought and determination, the tragedy of children being killed could have been avoided. The callous culprit is the government, which permits people to live in primitive conditions without protection within wildlife's limited domain. What happens to the leopards? How do you establish that they are the culprits. Has scat analysis or DNA analysis been done? Surely, if they are the culprits, they cannot be released ever. Shifting the danger elsewhere is not a remedy.



J.C. DANIEL

VIEW POINT

Flight to Extinction?

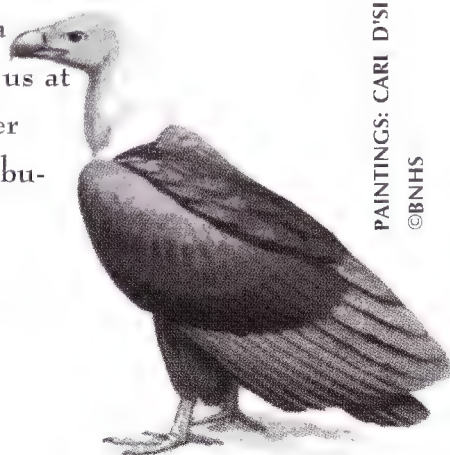


GOUTAM NARAYAN



We are a people addicted to rituals which we observe religiously and forget the next moment. One such ritualistic programme is wildlife week. Every year in the first week of October forest departments throughout the country become active. The minister makes a speech, a simple rehash of the speech made by his many predecessors or plants a sapling. It is safer for the department for the minister to make the speech, saplings have a way of dying and it would be awkward to have the minister plant again in the same pit the next year. Of course there is always the happy chance that the minister may not last the year. We feel that the members of the Society spread all over the country should spend the wildlife year, starting with the Wildlife Week in October, more constructively. Why not do something simple as keeping a count of the vultures that you see in the skies or the world around you for a year. Vultures once an abundant and common species are now endangered. But this is an opinion not shared by everyone largely owing to lack of data on their population throughout the country. Why not keep a diary of sightings and send the diary to us at the end of the wildlife year in September 2002. You would have made your contribution to conservation.

I.C. DANIEL



PAINTINGS: CARI D'SILVA
©BNHS

A BIRD IN

India has had a blanket ban on trade in wild birds since 1991. The trade goes on merrily and according to a report by Traffic India of WWF, in 1997, over 65,000 birds of about 250 species, which included over 16,000 roseringed parakeets, 11,000 blackheaded munias, 6,000+ red munias, 4,000+ Alexandrine parakeets, 2,000+ blossom headed parakeets, 1,000 green munias and over 400 hill mynas. These were traded through 57 establishments in 36 cities of north India. Birds are caught for keeping as pets, food, sport, medicine, black magic and even for release to obtain relief against one's sins! The fact is that trapping and smuggling of birds has not been contained and is unlikely to be, considering the number of people who make a living out of it. The trappers have to be identified and alternate employment found for them. The BNHS, in its bird migration studies, uses trappers from different parts of the country and we have been impressed by the knowledge that they have of the species they trap. The Mirshikars of Bihar are particularly noteworthy. Ali Hussain, for instance, who has been working with the Society for the last three decades, can, from seeing the droppings of birds on the shore, predict with commendable accuracy the species he expects to trap in the night.

ALEXANDRINE
PARAKEET

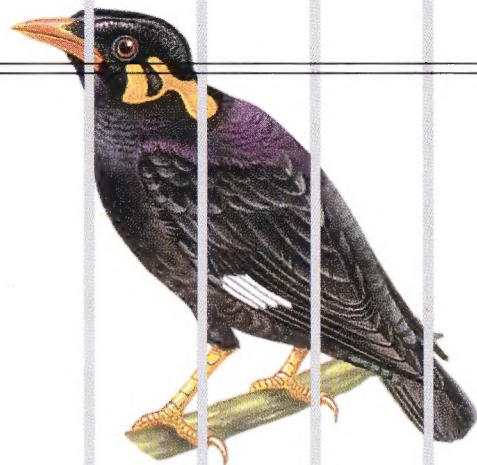
RED MUNIA

THE HAND

Ali Hussain, after working with the Society can identify in the dark, by touch only, the species in his collection basket before taking it out, and give its scientific name as well! There are similar talented trappers whose knowledge is being lost. It is now necessary to record this storehouse of information that trappers have on the behaviour and food habits of birds. Money is not made by the trappers, but by the traders who have to be suppressed. The Government of India has Regional Offices of the Ministry of Environment and Forests, who work with the Customs and State Forest Departments, confiscating illegal consignments of birds. The tragedy is that, once a consignment is confiscated, it invariably means death to the fledglings which have to be hand fed. Adult birds are haphazardly released in areas not within their natural distribution. What is urgently required is the establishment of rehabilitation centres where the fledglings and adults can be looked after by persons who know the art of rearing birds. This could be one source of alternate employment for trappers. As of today, any confiscated fledgling has no future.



J.C. DANIEL



HILL MYNA



GREEN MUNIA

ABOUT THE BOMBAY NATURAL HISTORY SOCIETY

The BNHS was founded in 1883 and today it is the prime non-governmental conservation organisation in the Subcontinent. We work towards the conservation of nature and natural resources, education and research in natural history, and have members in over 25 countries.

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